

WHAT IS CLAIMED IS:

1. A solid-state image pick-up device comprising, on a semiconductor substrate, a plurality of light receiving sensor sections, a vertical transfer path formed close to each of the light receiving sensor sections, and a channel stopper provided between the adjacent vertical transfer paths and formed by an insulating layer having a trench structure, wherein a conductive substance to which a predetermined voltage is applied is buried in the insulating layer.

2. The solid-state image pick-up device according to claim 1, wherein the predetermined voltage is a negative voltage if a signal charge is an electron, and is a positive voltage if the signal charge is a hole.

3. The solid-state image pick-up device according to claim 1, wherein the predetermined voltage is a pulse having an opposite phase to that of a read pulse to be applied to a transfer electrode of the vertical transfer path.

4. The solid-state image pick-up device according to any of claims 1 to 3, wherein a diffusion region having an opposite conductivity type to that of the light receiving sensor section is formed in a lowermost part of the channel stopper.

5. The solid-state image pick-up device according to claim 4, wherein the conductive substance is also doped with a doped impurity in the diffusion region, and the conductive substance and the diffusion region are thus set in a connecting state.

6. The solid-state image pick-up device according to any of claims 1 to 5, wherein the conductive substance is a polycrystalline silicon.

6. The solid-state image pick-up device according to any of claims 1 to 3, wherein the conductive substance is a polycrystalline silicon.

5        7. The solid-state image pick-up device according to 4, wherein the conductive substance is a polycrystalline silicon.

8. The solid-state image pick-up device according to 5, wherein the conductive substance is a polycrystalline silicon.

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